

*Camping blanket above and jacket below have been spun off from cryogenic and other space applications. The survival jacket is manufactured by Vexilar Inc. using King-Seeley Thermos Co. gold-metallized polyester "superinsulation" that is highly visible, radar reflective, lightweight, and waterproof.*

tion qualities similar to those of the sportsman's blanket. It is strong enough to be used as a litter, yet folds up so small you can carry it in your shirt pocket. One of the latest products is a light-weight jacket fabricated by several companies from the super-insulation originally developed for NASA-Lewis and now manufactured by King-Seeley Thermos Co., Winchester, Mass.

The 10-oz reversible jacket absorbs warmth from the sun. The silver-colored side next to your body retains a large portion of body heat. In warm weather, you wear the silver side out to reflect the sun's rays.

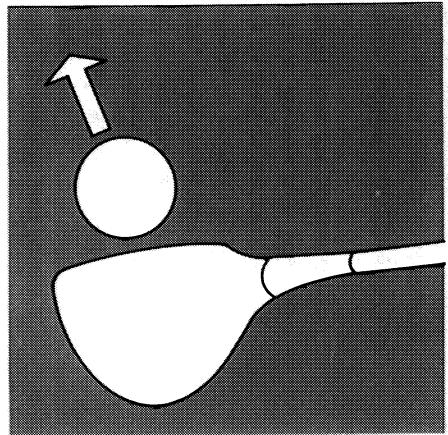
In a similar model, a gold metallized polyester film is bonded to a tear-resistant fabric to allow radar reflection, as well as higher visibility under all light conditions. Like the other jackets, the material protects against heat or cold and doesn't absorb moisture.

### **Composite golf clubs**

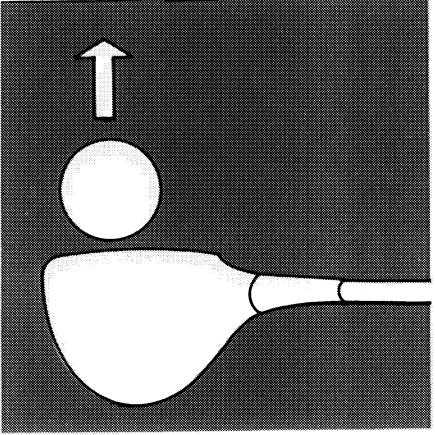
Composite materials developed for the Marshall Space Flight Center are being used by Babcock & Wilcox Co., Alliance, O., for golf clubs. The reinforced composites provide the combination of shaft rigidity and flexibility that provides maximum distance.

The company used Marshall's data summary file originally compiled to consider new materials for the shuttle program. The file summarizes typical-processing techniques and mechanical and physical properties of graphite and boron-reinforced composite materials.





Conventional



DynaTorque

*Materials for better golf clubs developed from NASA composite-material data have been designed by Babcock & Wilcox Co. The "DynaTorque" graphite composite allows a lighter shaft in relationship to the club head, resulting in easier swings and better control as shown above.*

#### Packaged food

NASA-Johnson's experience in producing space-craft food and food systems is being spun off to develop meal packages that don't require refrigeration.

Congressional studies have found that many elderly persons don't eat adequately either because they can't afford to, because of limited mobility, or because they just don't bother.

Reacting to a request from the Texas Governor's Committee on Aging, the Johnson Space Center is developing shelf-stable foods processed and packaged for home preparation with minimum effort. Various food-processing techniques and delivery systems are under study. The program, an applications project of the Technology Utilization Office is a cooperative venture including the University of Texas, Texas Research Institute for the Mental Sciences, and United Action for the Elderly Inc.

Food taste, package designs, and a delivery system developed by Technology Inc. were tested late last year in seven central-Texas rural areas. A three-month field test of the entire system will be conducted this year to evaluate foods, packaging, delivery systems, distribution logistics, and reactions of the users.

Compressed and freeze-dried foods developed by Johnson originally for space flight applications

